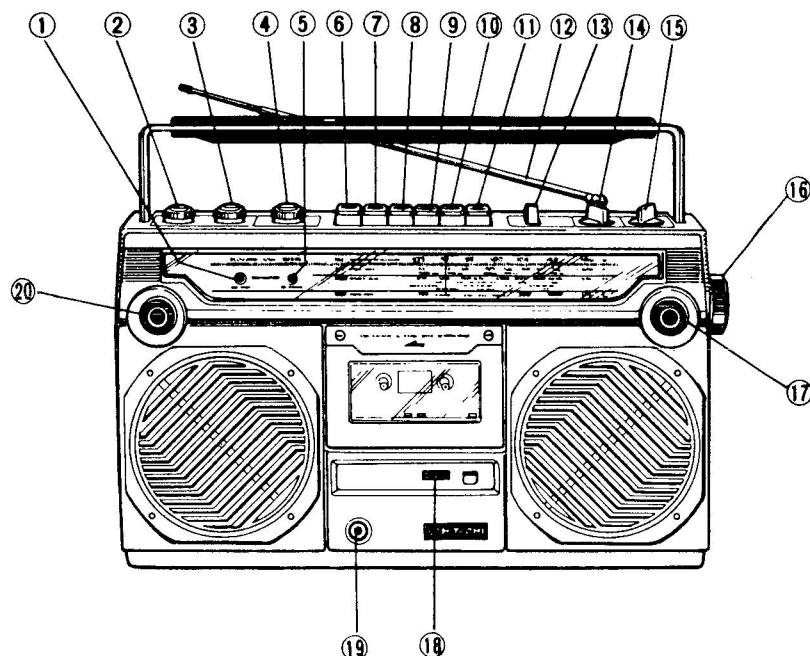


SERVICE MANUAL

No. 1272



KEY TO ILLUSTRATIONS

- ① REC/BATTERY INDICATOR
- ② VOLUME CONTROL
- ③ BALANCE CONTROL
- ④ TONE CONTROL
- ⑤ FM STEREO INDICATOR
- ⑥ PAUSE BUTTON
- ⑦ FAST FORWARD/CUE BUTTON
- ⑧ REWIND/REVIEW BUTTON
- ⑨ PLAYBACK BUTTON
- ⑩ RECORD BUTTON
- ⑪ STOP/EJECT BUTTON
- ⑫ TELESCOPIC ANTENNA (AERIAL)
- ⑬ MODE SWITCH
- ⑭ FUNCTION SELECTOR
- ⑮ BAND SELECTOR
- ⑯ TUNING CONTROL
- ⑰ BUILT-IN MICROPHONE (RIGHT)
- ⑱ TAPE COUNTER
- ⑲ HEADPHONE SOCKET
- ⑳ BUILT-IN MICROPHONE (LEFT)

SPECIFICATIONS

GENERAL SECTION

Semi-conductors : IC's : 8
Transistors : 11
Diodes : 11
LED : 2

Power (Mains) Supply : AC 100 to 110V, 115 to 127V,
200 to 220V, 230 to 250V
50/60 Hz
DC : 9V (IEC R20×6 or equivalent)

Power (Mains)
Consumption : 15W

Dimensions : 250(H)×428(W)×128(D)mm

Weight : 4.0kg (with batteries)

Power output : 2.0W/CH (T.H.D. 10%)

Speaker : 100mm 3.2 ohms×2

TUNER SECTION

Circuit System : FM/SW₂/SW₁/MW 4-band
superheterodyne

Tuning Range : FM : 88 to 108 MHz
SW₂ : 7 to 22 MHz
SW₁ : 2.2 to 7.3 MHz
MW : 530 to 1605 kHz

Sensitivity : FM : 10 dB (pra.) 5 dB (max.)
SW₂ : 25 dB (pra.) 18 dB (max.)
SW₁ : 45 dB (pra.) 35 dB (max.)
MW : 48 dB (pra.) 35 dB (max.)

Intermediate Frequency : FM : 10.7 MHz
SW₂/SW₁/MW : 455 kHz

Antennas (Aerials) :

FM/SW₂ : Telescopic antenna (aerial)
SW₁/MW : Built-in ferrite-core antenna
(aerial)

TAPE RECORDER

Tape : Cassette tape (C-30, 60, 90)

Tape Speed : 4.75cm/s

Recording System and
Bias Frequency : AC bias, 27 kHz

Erasing System : Quasi-AC erase

Track System : 4 track 2 channel

Frequency Response : 50 to 10000 Hz

S/N (Signal to Noise
Ratio) : 45 dB

Wow and Flutter : 0.15% (WRMS)

Cross Talk : 40 dB

Erase Ratio : 60 dB

Input Sensitivity and
Impedance : Microphone : -55 dB, 500 ohms
LINE IN : 100mV, 50K ohms

Output Level and
Impedance : LINE OUT : 650mV, 6K ohms
Headphone : 60 ohms
Speaker : 3.2 ohms

Distortion : 2%

Fast Forward or
Rewinding Time : 120 sec. (Using C-60)

Motor : DC motor

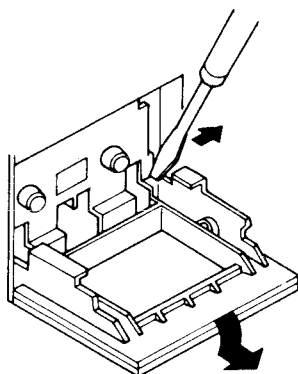
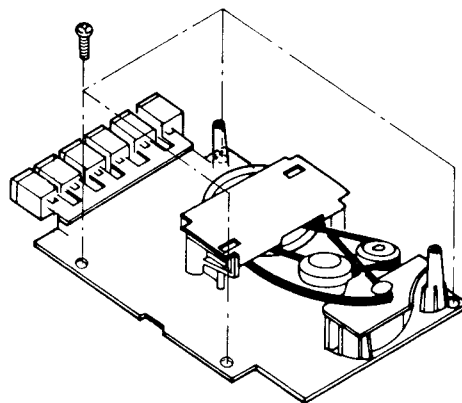
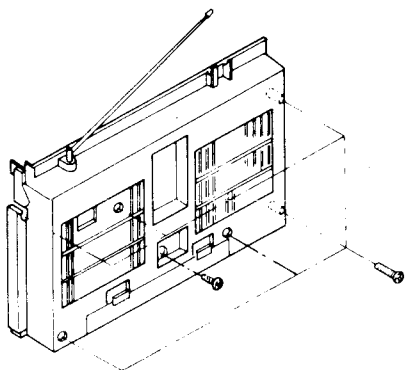
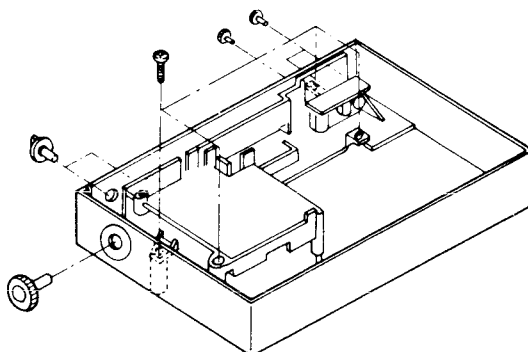
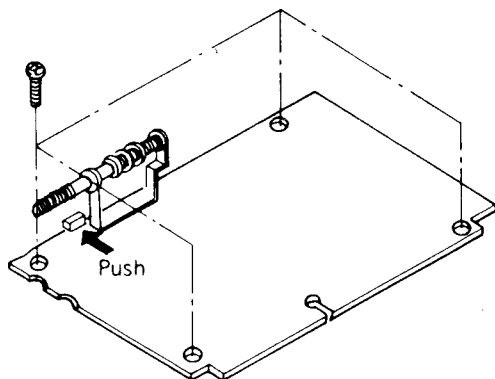
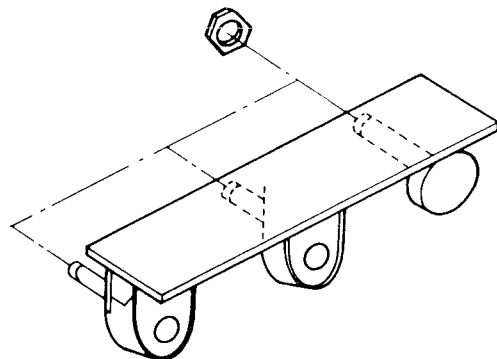
CASSETTE TAPE RECORDER WITH FM/SW₂/SW₁/MW RADIO

Oct. 1979

SAFETY PRECAUTION

The following precautions should be observed when servicing.

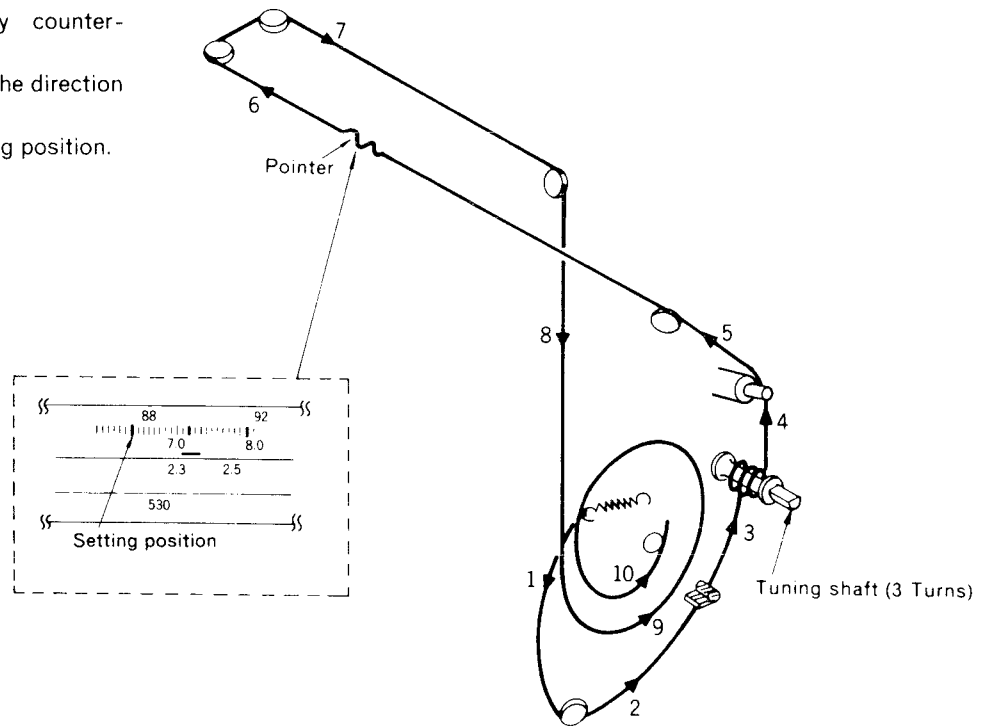
1. Since many parts in the unit have special safety related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers. Critical parts are marked with Δ in the schematic diagram and circuit board diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

DISASSEMBLY**1. Cassette Lid****4. Cassette Chassis****2. Rear Case****5. Radio Chassis****3. Main PC board****6. Tone PC board**

DIAL CORD STRINGING

STRINGING METHOD

1. Turn the pulley fully counter-clockwise.
2. String the dial cord in the direction of arrow (No. (1)—(10)).
3. Set the pointer to setting position.



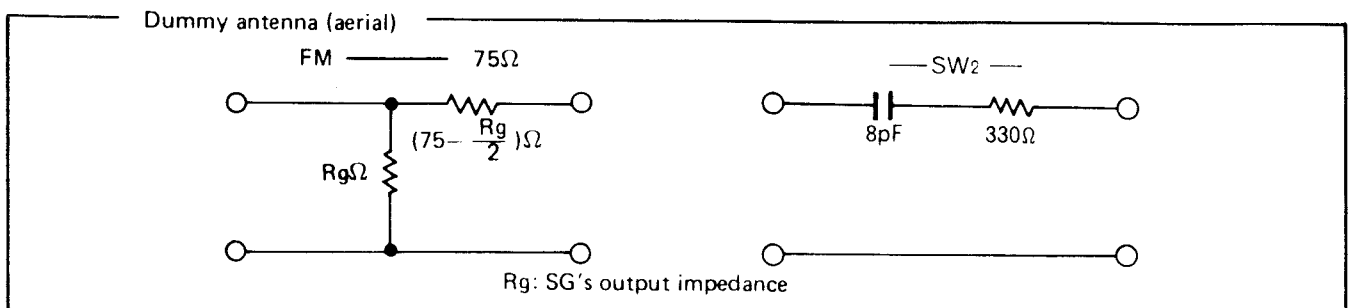
LUBRICATION

Lubricate one or two drops of machine oil to rotating point or lubricate grease to sliding point. Lubricate the respective parts listed below once every 1000 hours or once a year under normal conditions of use. Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

Lubrication	Oil or grease
Motor shaft bearing	Oil
Capstan shaft bearing	
Pressure roller bearing	

ADJUSTMENT

TUNER SECTION

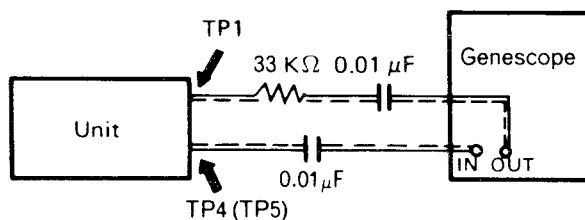


1. FM IF adjustment

Setting :

- Function selector : Radio
- Band selector : FM
- Mono/stereo switch : Mono

Connection :



Adjustment :

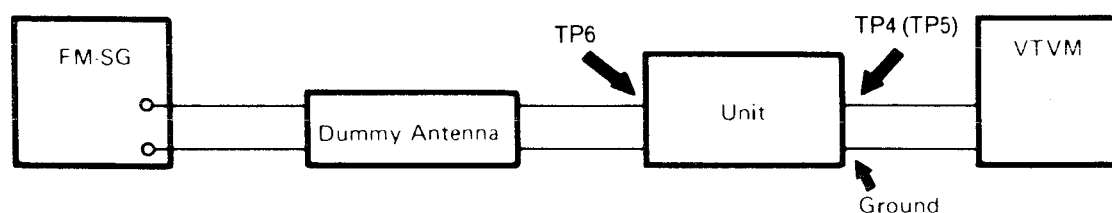
Genescope	Dial pointer position	Adjust	Reading	Remarks
10.7 MHz	Highest	T203	—	Turn T203 fully counterclockwise.
		T101		1) f_c : Specified center frequency of the ceramic filter. 2) Reduce the level of the genescope to make one waveform.
		T203		Adjust T203 for a symmetrical sinewave (S curve) output.

2. FM RF (Covering & Tracking) adjustment

Setting :

- Band selector : FM
- Mono/stereo switch : Mono
- Function selector : Radio

Connection:



Adjustment :

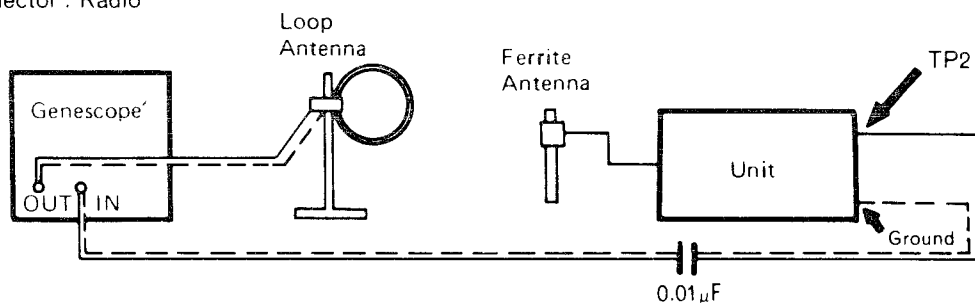
Item		Signal generator		Dial pointer position	Adjust	Reading	Remarks
		Frequency	Modulation				
1	Covering	87 MHz	400 Hz 30%	Lowest	L103	Max.	_____
2		109 MHz		Highest	CT102		
3	Repeat 1 and 2.						
4	Tracking	90 MHz	400 Hz 30%	90 MHz	L101	Max.	
5		106 MHz		106 MHz	CT101		
6	Repeat 4 and 5.						

3. AM IF adjustment

Setting :

- Band selector : MW
- Function selector : Radio

Connection :



Adjustment :

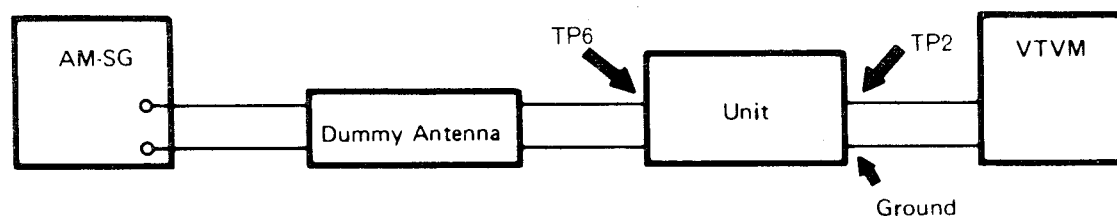
Genescope		Dial pointer position	Adjust	Reading	Remarks
Frequency	Modulation				
455 kHz	—	Highest	T201, T202, T204	Max.	—

4. SW₂ RF (Covering & Tracking) adjustment

Setting :

- Band selector : SW₂
- Function selector : Radio

Connection :



Adjustment :

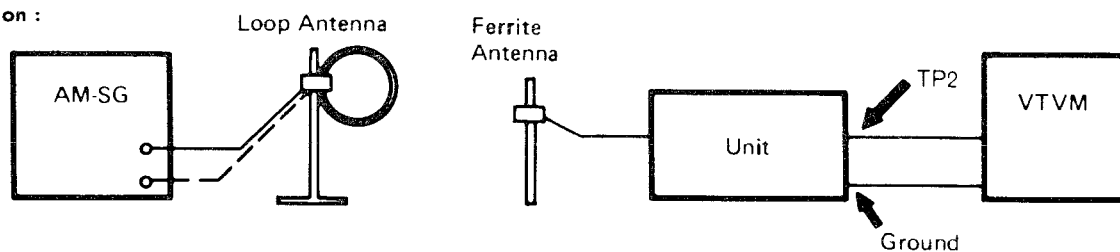
Item		Signal generator		Dial pointer position	Adjust	Reading	Remarks
		Frequency	Modulation				
1	Covering	6.7 MHz	400 Hz 30%	Lowest	L156	Max.	_____
2		23 MHz		Highest	CT156		
3	Repeat 1 and 2.						
4	Tracking	8 MHz	400 Hz 30%	8 MHz	L153	Max.	
5		20 MHz		20 MHz	CT153		
6	Repeat 4 and 5.						

5. SW₁ /MW RF (Covering & Tracking) adjustment

Setting :

- Band selector : SW₁ or MW
- Function selector : Radio

Connection :



Adjustment :

1) SW₁

Item		Signal generator		Dial pointer position	Adjust	Reading	Remarks
		Frequency	Modulation				
1	Covering	2.2 MHz	400 Hz 30%	Lowest	L155	Max.	_____
2		7.3 MHz		Highest	CT155		
3	Repeat 1 and 2.						
4	Tracking	2.7 MHz	400 Hz 30%	2.7 MHz	L152	Max.	
5		6.3 MHz		6.3 MHz	CT152		
6	Repeat 4 and 5.						

2) MW

Item		Signal generator		Dial pointer position	Adjust	Reading	Remarks
		Frequency	Modulation				
1	Covering	515 kHz	400 Hz 30%	Lowest	L154	Max.	_____
2		1650 kHz		Highest	CT154		
3	Repeat 1 and 2.						
4	Tracking	600 kHz	400 Hz 30%	600 kHz	L151	Max.	
5		1400 kHz		1400 kHz	CT151		
6	Repeat 4 and 5.						

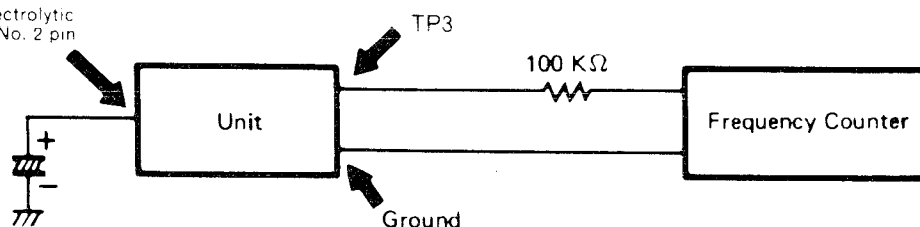
6. FM MPX (Multiplex) adjustment

Setting :

- Band selector : FM
- Mono/stereo switch : stereo
- Function selector : Radio

Connection :

Connect a 10 μ F 25V electrolytic capacitor between the No. 2 pin of IC301 and ground.



Adjustment :

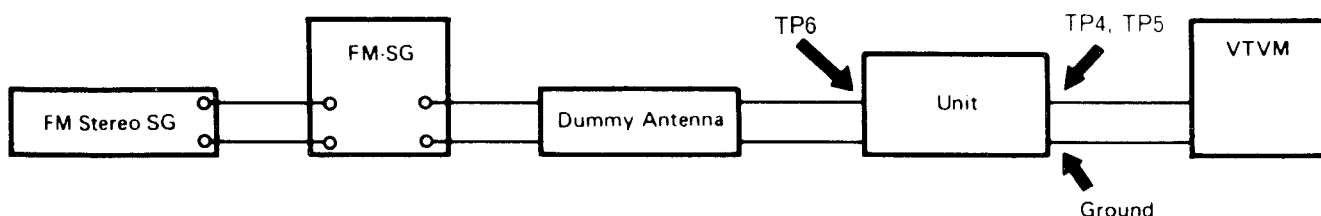
Adjust	Reading	Remarks
RT301	19 kHz $\pm$ 100 Hz	—

7. FM separation adjustment

Setting :

- Mono/stereo switch : Stereo
- Band selector : FM
- Function selector : Radio

Connection :



Adjustment :

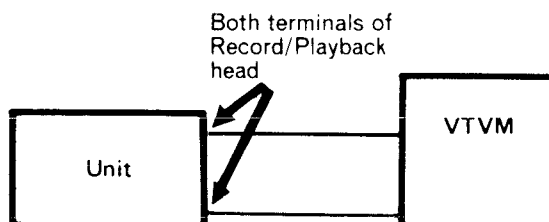
Signal generator		Dial pointer position	Adjust	Reading	Remarks
Frequency	Modulation				
98 MHz 60 dB	L + R (1 kHz) : 40 kHz dev. Pilot (19 kHz) : 6 kHz dev.	98 MHz	RT302	Min.	1) After feeding in of R channel and pilot signals, adjust RT302 for a minimum L channel output. 2) Optimize RT302 so that the leak level of the L channel signal is equal to that of the R channel signal.

TAPE DECK SECTION

1. Bias current adjustment

Setting : Recording mode

Connection :

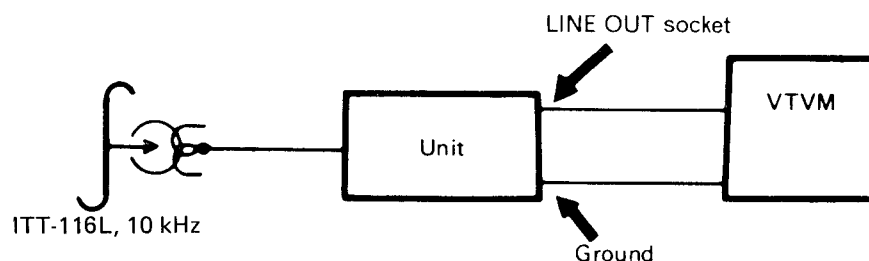


Adjustment : Set the record mode. Adjust RT401 so that the bias voltage of 8V is applied to the both terminals of Record/Playback head.

2. Head azimuth adjustment

Setting : Playback mode

Connection :



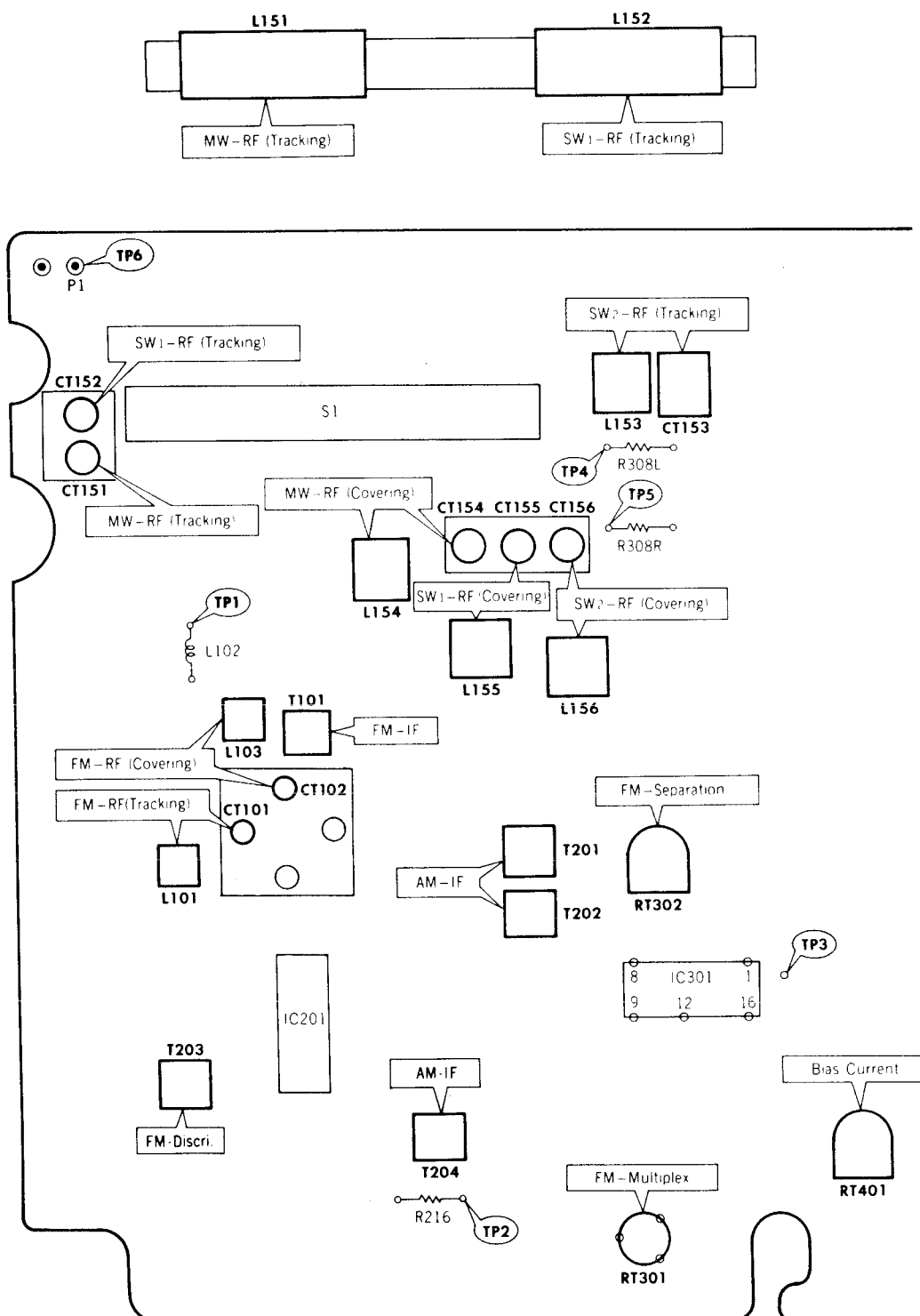
Adjustment : Playback a test tape (MTT-116L, 10kHz) and adjust the azimuth adjustment screw for maximum output.

3. Inspection of mechanism

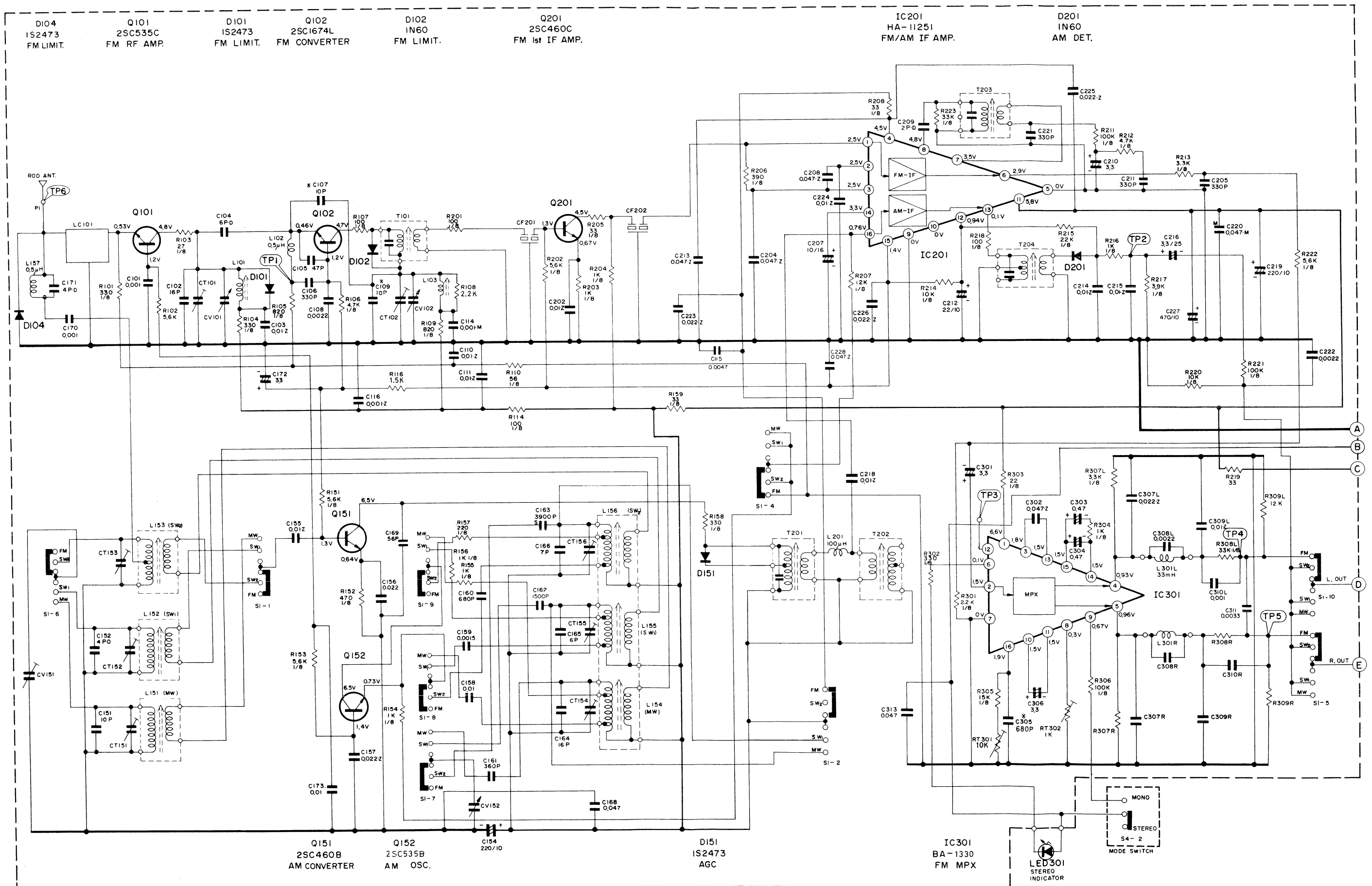
Pressure of pressure roller : 350gr~500gr
 Take-up torque : 35gr-cm~60gr-cm
 Pressure of take-up roller : 130gr~250gr
 Fast forward torque : 65gr-cm~90gr-cm

Rewind torque : 60gr-cm~90gr-cm
 Take-up reel back tension : 6gr-cm or less
 Supply reel back tension : 1.5gr-cm~3.5gr-cm

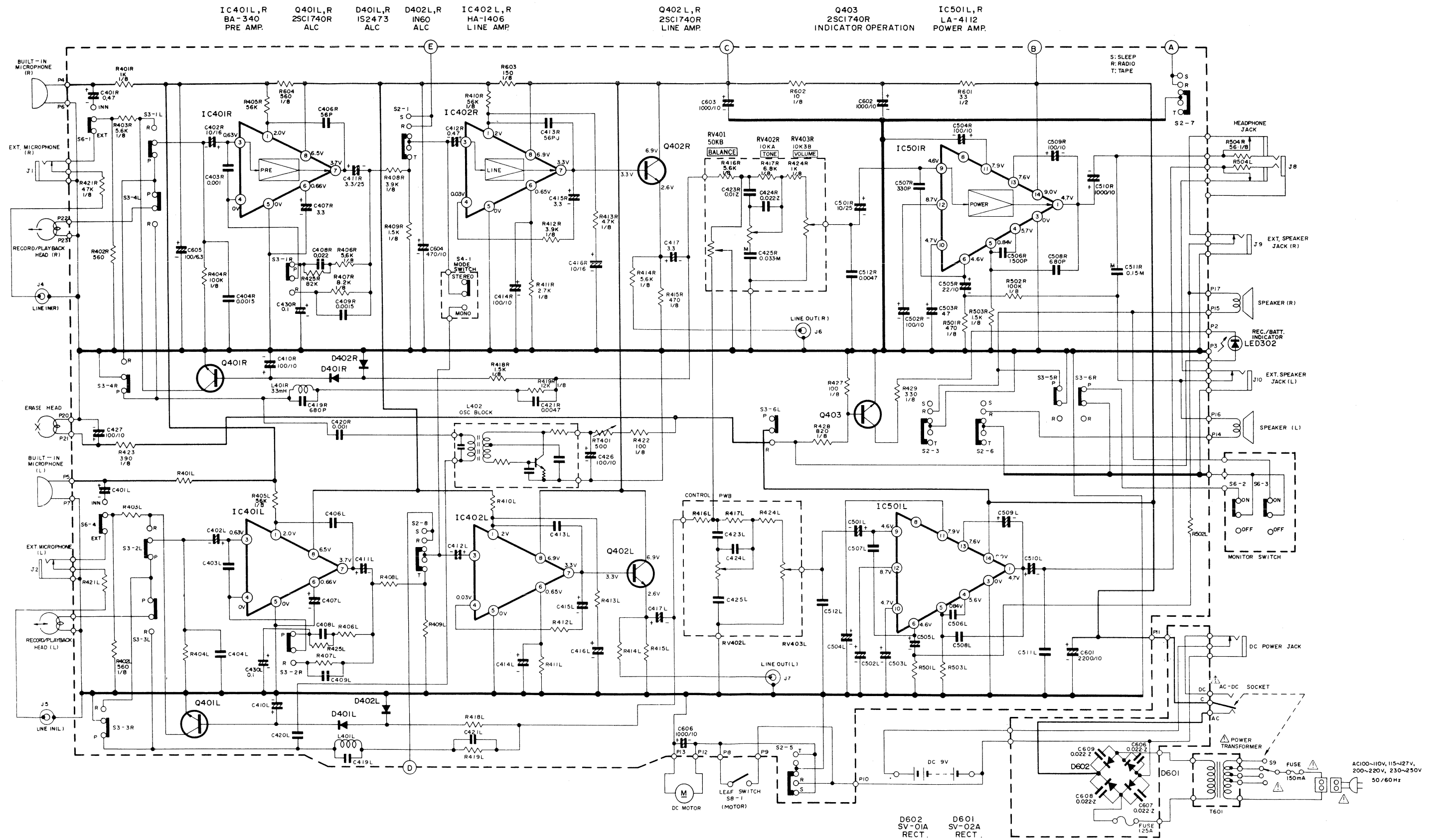
ADJUSTMENT PARTS LOCATION



SCHEMATIC DIAGRAM (Tuner Section)



SCHEMATIC DIAGRAM (Tape Recorder/AF/Power Section)



 : Ground : Signal, +B

1. Voltage measured at base of chassis with minimum volume control and no signal.
2. Nomenclature of Resistors and Capacitors.

3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with *, use specified ones stated on parts list since required temperature characteristics.

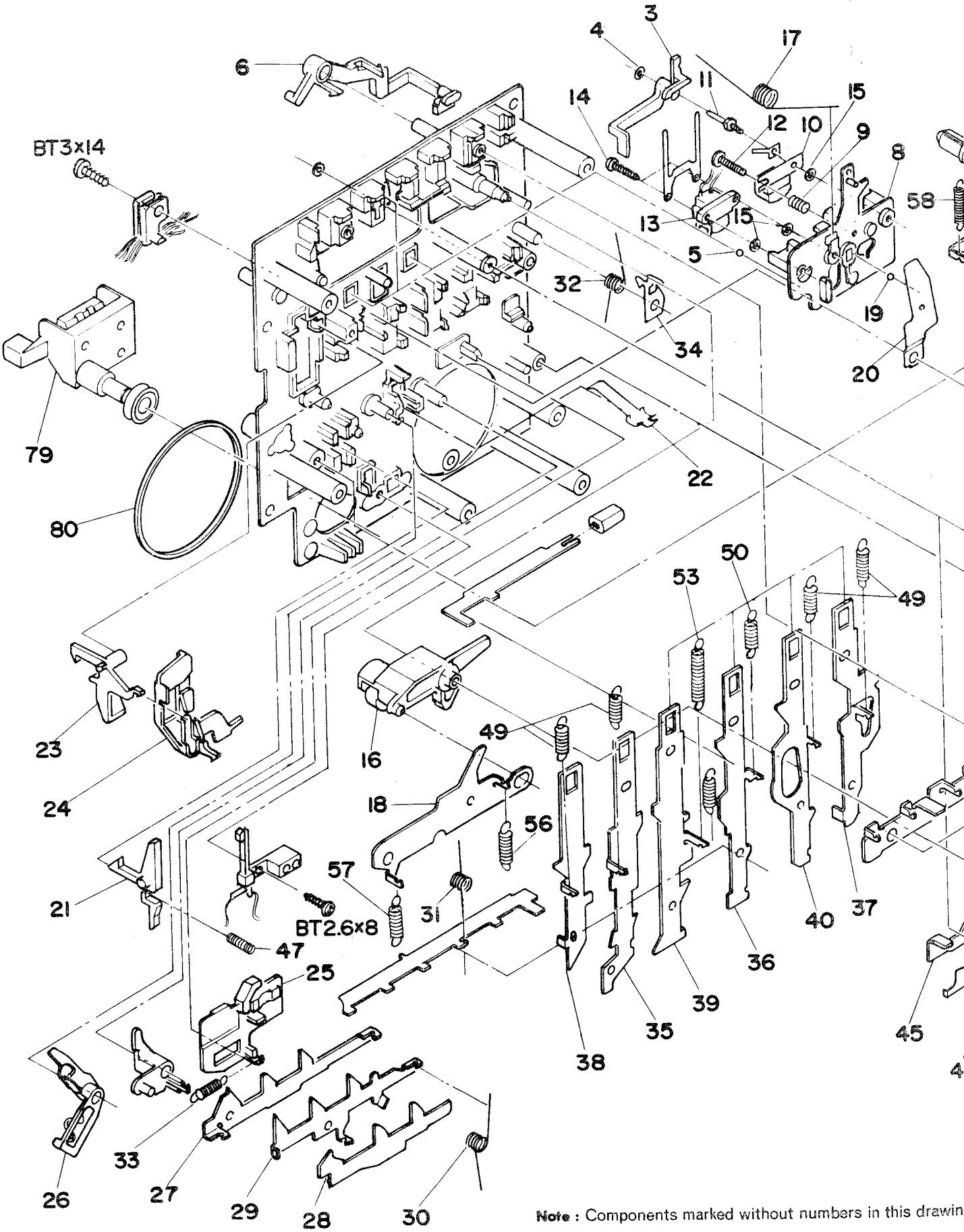




REPLACEMENT PARTS LIST

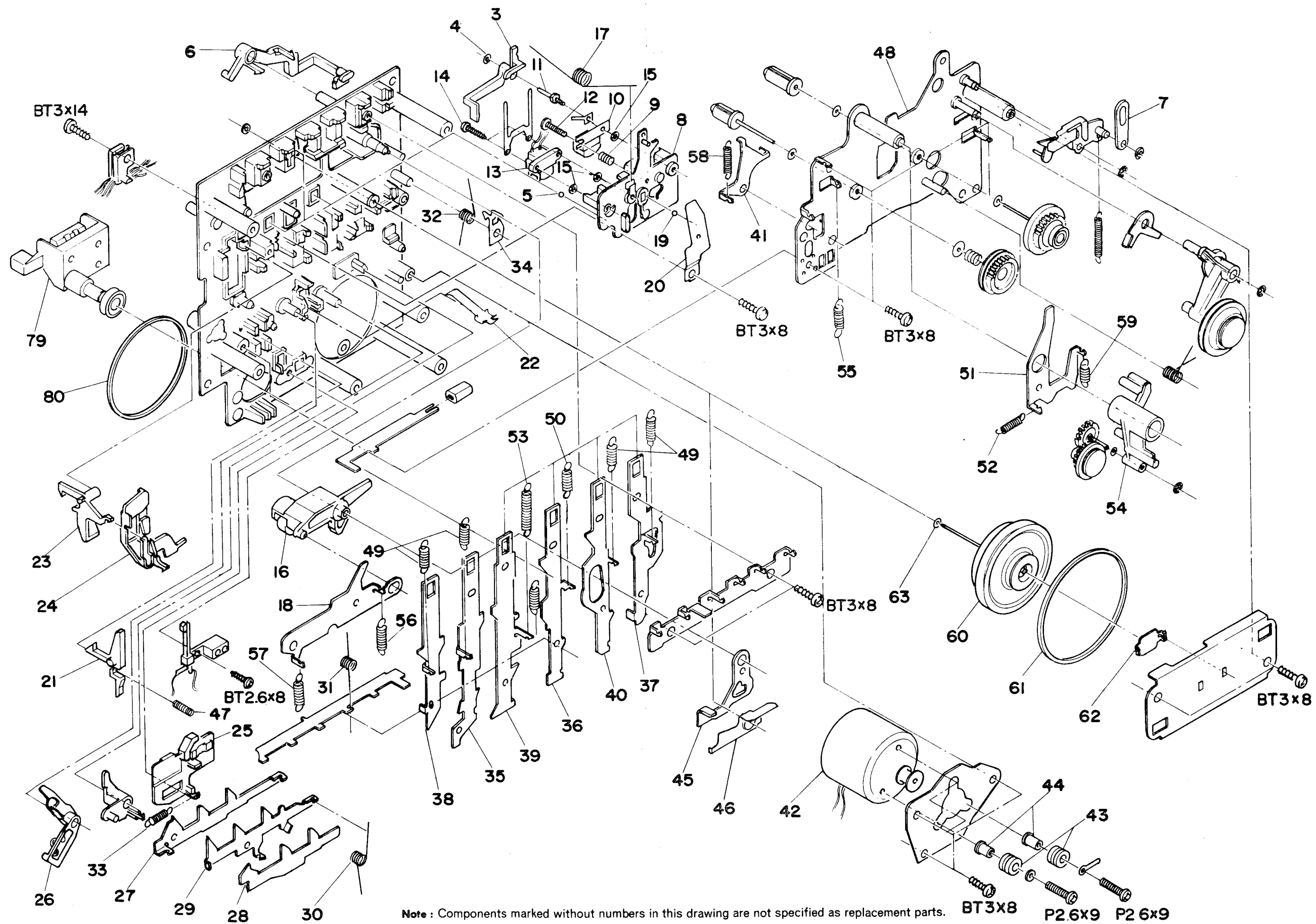
SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
CAPACITORS			TRANSFORMERS		
CT101	5052241	PLASTIC FILM VARIABLE	T101	5140071	FM IF
CT102	5052241	PLASTIC FILM VARIABLE	T201	5130153	AM IF
CT151	0283557	TRIMMER	T202	0322127	AM IF 30KOHM: 0.5KOHM
CT152	0283565	VARIABLE	T203	5140073	FM IF
CT153	5058191	TRIMMER 10PF	T204	5130122	AM IF
CV101	5052241	PLASTIC FILM VARIABLE	Δ T601	5211925	POWER
CV102	5052241	PLASTIC FILM VARIABLE	COILS		
CV151	5052241	PLASTIC FILM VARIABLE	L101	5126006	FM RF 0.4 MICROH
CV152	5052241	PLASTIC FILM VARIABLE	L102	5123271	FM TRAP 0.5MH
C107	0246430	CERAMIC DISC 10PF +- 0.5PF	L103	5126369	FM OSC
C109	0248477	CERAMIC DISC 7PF +- 0.5PF	L151	5117761	FERRITE ANTENNA
RESISTORS			L152	5117761	FERRITE ANTENNA
RT301	0151886	VARIABLE 10KOHM B	L153	5123674	SW ANTENNA
RT302	0151806	SEMI VARIABLE 1KOHM B	L154	5120319	OSCILLATOR
RT401	0151807	SEMI VARIABLE 5000HM	L155	5120424	SW OSC
RV401	5000042	VARIABLE 10KOHM(A)	L156	5123495	SW OSC
RV402LR	5000043	VARIABLE 10KOHM(B)	L157	0334116	CHOKE
RV403LR	5000185	VARIABLE 50KOHM(B)	L201	5152027	CHOKE
SEMI-CONDUCTORS			L301LR	5150571	CHOKE 33MH
D101	5339011	DIODE 1S2473	L401LR	5150571	CHOKE 33MH
D102	5330731	DIODE GERMANIUM IN60 80MHZ 50MW	L402	5260641	OSCILLATOR BLOCK
D104	5330571	DIODE 1S2473 VE	MISCELLANEOUS		
D151	5330573	DIODE 1S2473	Δ	5652221	AC-DC SOCKET
D201	5330731	DIODE GERMANIUM IN60 80MHZ 50MW	ANT	5752461	ROD ANTENNA
D401LR	5330573	DIODE 1S2473	CF201	5160211	CERAMIC FILTER CF107A
D402LR	0575005	DIODE GERMANIUM IN60 80M	CF202	5160211	CERAMIC FILTER CF107A
D601	5330372	DIODE SILICON SVD2A 60H	Δ F601	5721142	FUSE 150MA
D602	5330371	DIODE SILICON SVD1A 60H	F602	5721042	FUSE (1.25A)
IC201	5351411	IC HA11251	J 1	5679442	JACK PLATE (EXT. MIC)
IC301	5350684	ICBA1330	J 2	5679442	JACK PLATE (EXT. MIC)
IC401LR	5350961	IC BA340	J 4-7	5676162	4P PIN JACK (LINE IN/LINE OUT)
IC402LR	5350251	IC HA1406	J 8	5674132	HEADPHONE JACK
IC501LR	5350702	IC LA4112	J 9	5676201	2P PIN JACK (SPEAKER)
LED301	5380053	LED SR1030	J10	5676201	2P PIN JACK (SPEAKER)
LED302	5380053	LED SR1030	LC101	5161551	FM BAND PASS FILTER
Q101	0573511	TRANSISTOR SILICON 2SC535C 600MHZ	MIC	5421571	BUILT IN MICROPHONE
Q102	5321271	TRANSISTOR SILICON 2SC1674L 600MHZ	SP	5405303	SPEAKER-10CM
Q151	0573486	TRANSISTOR SILICON 2SC460 230M	S1	5625011	SLIDE SWITCH (BAND)
Q152	0573510	TRANSISTOR SILICON 2SC535 700M	S2	5620382	SLIDE SWITCH (FUNCTION)
Q201	0573486	TRANSISTOR SILICON 2SC460 230M	S3LR	5623271	SLIDE SWITCH (RECORD/PLAYBACK)
Q401LR	5321293	TRANSISTOR 2SC1740LN-R	S4	5604082	LEVER SWITCH (MODE)
Q402LR	5321293	TRANSISTOR 2SC1740LN-R	S6	5620701	SLIDE SWITCH (MIC/MONITOR)
Q403	5321293	TRANSISTOR 2SC1740LN-R	S8	5603231	LEAF SWITCH (MOTOR)
			Δ S9	5639023	VOLTAGE CHANGE-OVER SWITCH
			FOR ACCESSORIES		
			Δ	5747214	POWER CORD
				5660212	SIEMENS PLUG

EXPLODED VIEW (Cassette Chassis)



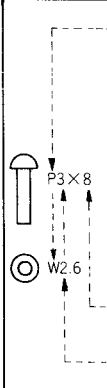
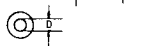
Note : Components marked without numbers in this drawing

EXPLODED VIEW (Cassette Chassis)



Note : Components marked without numbers in this drawing are not specified as replacement parts.

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
FOR CASSETTE DECK ASSEMBLY (A)			32	6307711	SPRING
1	6257432	BUTTON ASSEMBLY (REC.)	33	6300375	SPRING FOR RECORDING PLATE
2	6257431	BUTTON ASSEMBLY (STOP/EJECT, PLAY, REW, F.F., PAUSE)	34	7286241	PAUSE LOCK PIECE
3	6752792	PICK UP PIECE	35	7297851	RECORDING SLIDER (B)
4	7786115	POLYESTER WASHER	36	7297841	REWIND SLIDER (B)
5	0948492	BALL - 2MMØ	37	7286042	PAUSE SLIDER ASSEMBLY
6	6752801	PICK UP LEVER	38	7297831	STOP SLIDER (B)
7	7311882	JOINT PLATE	39	7297491	PLAY SLIDER (B)
8	7105836	HEAD PLATE	40	7297481	FAST FORWARD SLIDER (B)
9	6321734	SPRING	41	7286193	RECORDING LOCK LEVER
10	5444552	RECORD PLAYBACK HEAD	42	7109502	MOTOR ASSEMBLY
11	7545533	SPECIAL SCREW	43	6576083	RUBBER PLATE
12	7781004	SCREW	44	5681371	COLLAR
13	5445101	ERASE HEAD	45	7287814	RC LEVER
14	7780912	TAPPING SCREW-2MMØX8MM	46	7311141	F.F FUNCTION LEVER
15	7778183	POLYESTER WASHER	47	6304161	SPRING
16	6383142	PRESSURE ROLLER ARM ASSEMBLY	48	7109493	TURNABLE HOLDER ASSEMBLY
17	6307741	SPRING	49	6300375	SPRING FOR RECORDING PLATE
18	7286182	PR LEVER	50	6324814	SPRING
19	0948492	BALL - 2MMØ	51	7286031	FR LEVER
20	6329633	HEAD PLATE HOLDER	52	6301101	SPRING
21	6741103	RECORDING PREVENTION ARM	53	6301233	SPRING
22	6530471	CASSETTE HOLDER	54	7109601	FR ARM ASSEMBLY
23	6740982	EJECT ARM	55	6300981	SPRING
24	6741186	EJECT SLIDER	56	6301361	SPRING
25	6741111	AS FUNCTION PLATE	57	6323064	SPRING
26	6741711	SWITCH FUNCTION ARM	58	6301721	SPRING
27	7287692	SW PLATE	59	6300991	SPRING
28	7297951	RC PLATE	60	6373281	FLYWHEEL ASSEMBLY
29	7288494	FUNCTION PLATE	61	6354211	BELT
30	6308102	SPRING	62	6743883	THRUST SUPPORT
31	6307733	SPRING	63	7786621	POLYSLIDER WASHER

Type of head					
	P	Pan head screw		BT	Binding head tapping screw
	F	Flat countersunk head screw		BL	Bolt
	B	Binding head screw		W	Washer
	T	Round head tapping screw		E	"E" ring
Length (L mm)					
Diameter (D mm)					

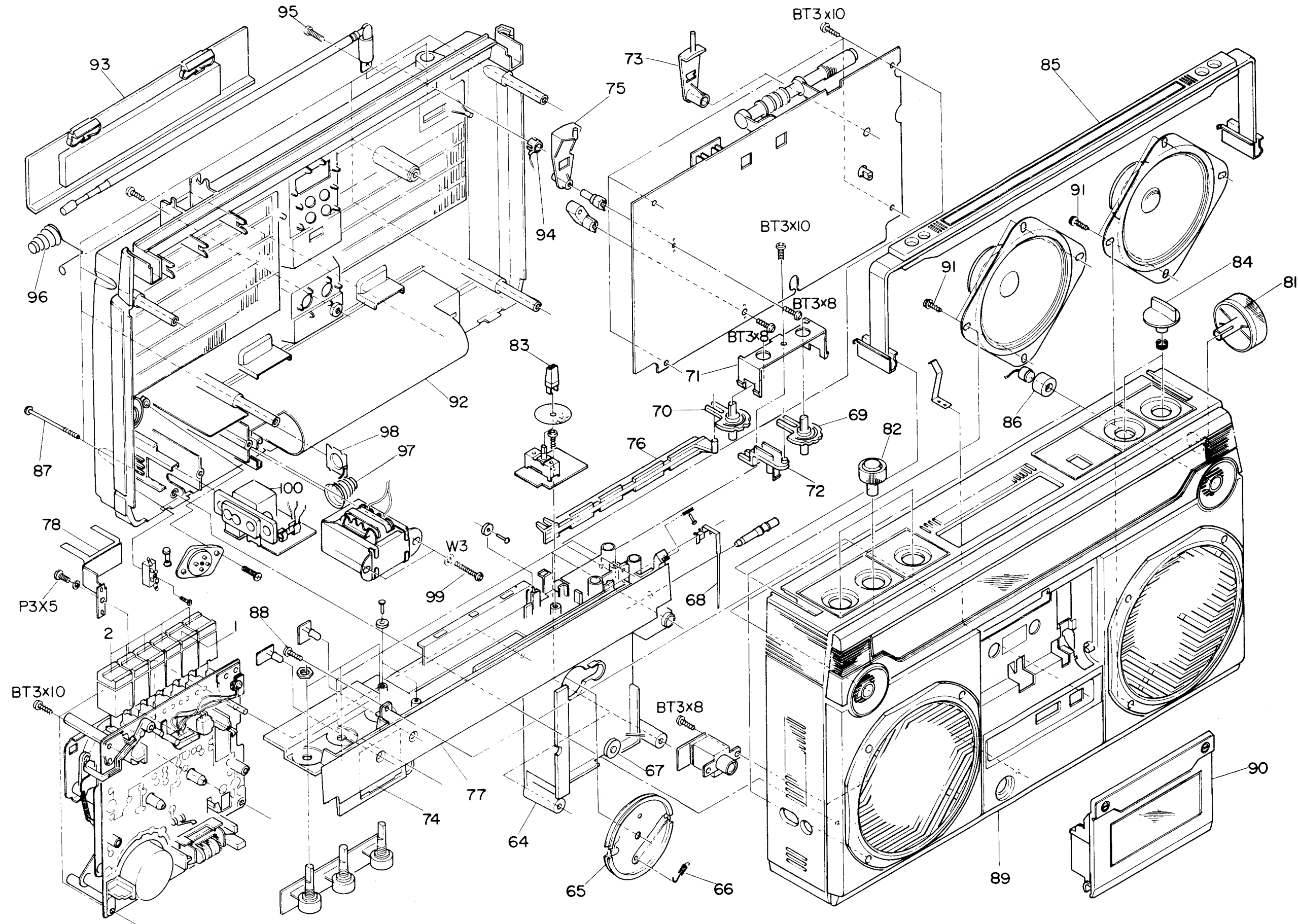
When ordering hardware excluding stated on these lists, be sure to make your orders with type and size.

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
FOR CASSETTE DECK ASSEMBLY (B)			MISCELLANEOUS		
64	6750913	CHASSIS ASSEMBLY	81	6282732	KNOB (TUNING)
65	6345591	PULLEY	82	6282298	KNOB-20MM (VOLUME, TONE)
66	6316231	SPRING M	83	6296381	SWITCH KNOB (MODE)
67	0661058	BD ROLLER P	84	6282626	KNOB ASSEMBLY (BAND, FUNCTION)
68	6394264	POINTER	85	6333483	HANDLE ASSEMBLY
69	6750821	EXCHANGE LEVER	86	6570221	MICROPHONE HOLDER
70	6750822	EXCHANGE LEVER	87	7781148	BT SCREW-3MMDX50MM
71	6750831	LEVER HOLDER	88	8699410	BT BIND HEAD SCREW-3MMDX10MM (BLACK)
72	6750851	ARM (BAND SELECT)	89	6034483	FRONT CASE ASSEMBLY
73	6750843	LEVER (BAND SELECT)	90	6091973	CASSETTE LID
74	6753291	LED PIPE	91	7781133	BT SCREW-3MMD
75	6750871	FUNCTION LEVER	92	6034503	REAR CASE ASSEMBLY
76	6750891	FUNCTION SLIDER	93	6113212	BATTERY LID ASSEMBLY
77	6467801	SCALE PLATE	94	5687142	CAP TERMINAL
78	7298402	RECORDING SPRING ASSEMBLY	95	8744414	BIND SCREW-3MMDX14MM
79	5559311	COUNTER (MZ)	96	6308961	SPRING
80	6354471	COUNTER BELT	97	0681129	SPRING A
			98	7450344	BATTERY TERMINAL
			99	7781146	BT SCREW-3MMDX20MM
			100	5659121	BACK COVER

	Type of head			
	P	Pan head screw	BT	Binding head tapping screw
	F	Flat countersunk head screw	BL	Bolt
	B	Binding head screw	W	Washer
	T	Round head tapping screw	E	"E" ring
Length (L mm)				
Diameter (D mm)				

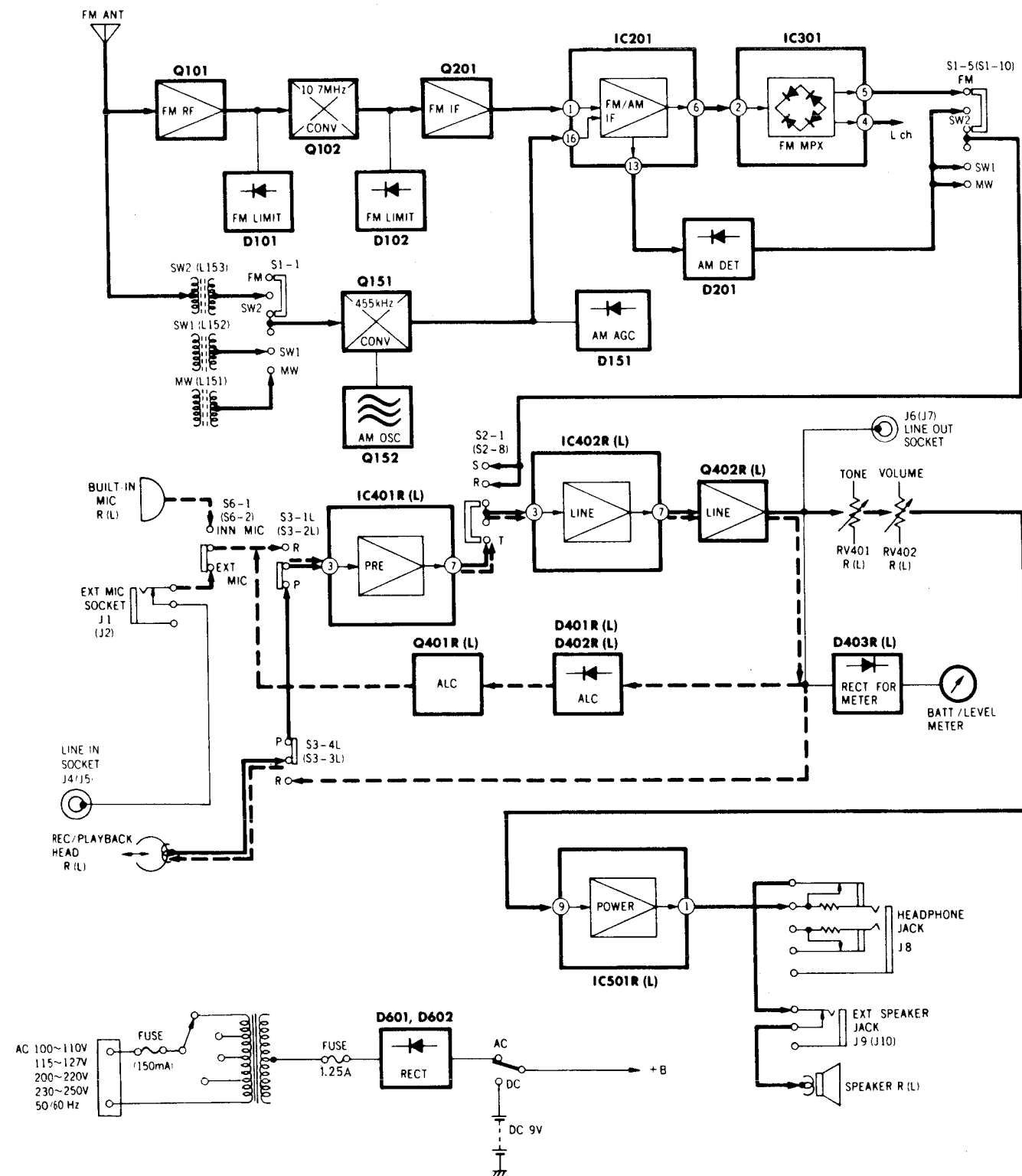
When ordering hardware excluding stated on these lists, be sure to make your orders with type and size.

EXPLODED VIEW (Cabinet)



Note: Components marked without numbers in this drawing are not specified as replacement parts.

BLOCK DIAGRAM



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Printed in Japan (K)